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ABSTRACT

A program was implemented to expand the curriculum materials within the Licensed Practical Nursing (LPN) Program at Clark County Community College (CCCC) which relate to oral hygiene care for the hospital patient. The instructional materials included a video tape and a written instructional packet which were researched, prepared, and presented by two dental hygiene students at CCCC. Program participants were the twenty-seven freshman students in the 1979 fall LPN class. Pre- and post-data included a Personal Hygiene Performance (PHP) Plaque index and a questionnaire/knowledge examination with questions on attitude and personal hygiene habits as well as general dental knowledge. The LPN students also completed a process examination to evaluate their skills in toothbrushing and denture care. The post-program PHP scores and post-program knowledge scores were both significantly improved. In the post-program questionnaire more students responded that they used dental floss at least once a day. Measurement change in nurses' dental attitudes was proven to be statistically insignificant. (Appendixes are the questionnaire and curriculum materials, including course objectives, outline of the video-tape presentation, references, and process evaluation form.) (Author/YLB)

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EXPANDING THE ORAL HYGIENE CURRICULUM

IN A NURSING PROGRAM

RFP CODE: NV-80-]32-A-01

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ABSTRACT

A program to expand the curriculum materials within the Licensed Practical Nursing Program (L.P.N.) at Clark County Community College (C.C.C.C.) which relate to oral hygiene care for the hospital patient was implemented. The unit on oral hygiene was funded by grant number NV-80-132-A-01 through the Nevada Department of Education.

The instructional materials included a video tape and a written instructional packet which were researched, prepared and presented by two dental hygiene students at Clark County Community College.

Pre- and post-data included a Personal Hygiene Performance Plaque index and a questionaire/knowledge examination which encompassed questions on attitude and personal hygiene habits as well as general dental knowledge. In addition, the L.P.N. students were asked to complete a process examination to evaluate their skills in toothbrushing and denture care.

The post-program P.H.P. scores and post-program knowledge scores were both significantly improved. In the post-program questionaire, more students responded that they used dental floss at least once a day. The examiners were not sure how much the program affected the dental attitudes of the nurses as this measurement change was proven to be statistically insignificant.

TIME SCHEDULE

		AUG.	SEPT.	OCT.	NOV.	DEC.
1.	Submit for funding	*				
2.	Nursing Advisory Committee		*			
3.	Hospital Research	*				
4.	Research literature	*				
5.	Course content		*			
6.	Instructional materials		*			
7.	Establish baseline data		*			
8.	Prepare process exam forms		*			
9.	Prepare questionaire forms		*			
10.	Prepare student eval. forms		*			
11.	Prepare course post-objective exam			*		
12.	Present program to L.P.N. class				*	
13.	Supervise oral hygiene practice				*	
14.	Supervise appliance care practice				*	
15.	Objective and process exans and P.H.P.				*	

TIME SCHEDULE CONT.

	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
16. Evaluation forms to supervisors	*						
17. Quarterly report					*		*
18. Student evaluation		*					
19. Follow-up eval. and final report							*

RESOURCE PERSONS

1. Adele Koot, RDH, MS, instructor, Dental Hygiene Program, Clark County Community College.

2. Barbara Nelson, RDH, BS, instructor, program director, Dental Hygiene Program, Clark County Community College.

3. Mary Glennan, program director, L.P.N. Program, Clark County Community College.

4. Harriet Getler, L.P.N. instructor, Clark County Community College.

5. Kenneth V. Hill, co-ordinator, Audio-visual services, Clark County Community College.

6. Edward Messner, Electronic Technician, employed by Clark Counyt Community College.

INTRODUCTION

> It is the function of the nurse to access the condition of the mouth of every patient and institute nursing measures that will maintain or restore the health of the oral tissues. [1]

After evaluating the dental knowledge of a group of volunteer Licensed Practical Nursing Students (L.P.N.) from the graduating class of August, 1979, it was determined that there was a need to expand the curriculum materials within the L.P.N. Program at Clark County Community College (C.C.C.C.) which relate to oral hygiene care for the hospital patient.

The program participants consisted of the 1979 Fall L.P.N. class at C.C.C.C., 27 students. The group ranged in age from 18 to 54 with a mean of 27.7. Male students comprised 15% of the participants; another 15% were non-white. The students are at the freshman level of education and were selected for the program on the basis of scholastic performance, entrance examination scores and personal interviews. At least half of the class members had worked in a hospital as a nurse's aide or orderly prior to entering the program. The Personal Hygiene Performance score (P.H.P.)[2] averaged 1.81 with a standard deviation of .89 (see table 1). The mean score on a dental knowledge objective test was 45.71% with a standard deviation of 8.81. An attitude questionaire surveyed the importance placed on personal oral hygiene as well as the responsibility

of the nurse for his/her patients' oral hygiene. (see table 2)

Oral health habits of the target group were determined by a questionaire. It was found that 81% brushed twice a day. A fluoride toothpaste was used by 93% of the respondents and only 18% used floss once a day. Over half, 56% never used dental floss.

The program objectives were as follows:

Eighty percent of the nursing students at Clark County Community College will demonstrate 80% competency on a process examination simulating a hospital environment measuring proper oral hygiene care for a hospital patient by December 15, 1979. The nursing students will improve their scores on an objective examination by 12% prior to December 15, 1979.

The program had two sub-objectives: The nursing students will be able to demonstrate proper toothbrushing and flossing techniques for the hospital patient by scoring at least 80% on a process examination. The same students will demonstrate proper dental appliance care for the hospital patient by scoring 80% on a process examination. Each sub-objective will be completed by December 15, 1979.

PROCEDURES

A program was designed to offer thorough instruction to the L.P.N. students on oral hygiene care for the hospital patient. Measurements of P.H.P. were taken prior to implementation of the instructional portion of the program. The P.H.P. was found

to be sufficiently sensitive to justify it's use in dental health education and research.[3] A Class IV examination was used to determine P.H.P. scores. Although this examination type is not optimal, it is considered to be applicable with the use of a P.H.P. index.[4] This measurement was found to be efficient and simple to score. The pre-program P.H.P. mean score was 1.81 with a standard deviation of .89. Intra-rater reliability was computed at 0.97 using the Pearson r formula for correlation.[5]

A thirty minute video tape presentation was researched, prepared, taped and edited by the two student program coordinators. It was entitled "Oral Health Care for the Hospital Patient." The tape covered general dental knowledge, proper toothbrushing and flossing methods, denture care and the application of the basic principles to the care of the hospital patient. An instructional packet following the basic outline of the material covered in the video tape was formulated.

The students were asked to complete a pre-program questionaire/objective examination. It contained questions concerning dental health attitudes, personal oral hygiene habits, and basic dental knowledge. The dental health attitude survey was plotted on a Likert scale (see table 2). Oral hygiene habits were compiled and plotted on a bar graph (see table 3). The mean score on the dental knowledge examination was 45.71% with a standard deviation of 8.81

The video tape was then presented to the L.P.N. students. A discussion period followed in which the students were encouraged to ask any questions they had concerning oral

hygiene care. The instructional packet was distributed to the students and the video tape was placed on reserve in the audio-visual lab for the students' review.

One week following the video tape presentation, the post-P.H.P. measurements were obtained in order to determine whether or not the students had applied the information to themselves. (see table 1) A more complete discussion of these measurements will follow. The students were asked to complete a post-questionaire/dental knowledge examination. The post-exam was identical to the pre-exam. This direct comparison was planned in order to determine the statistical significance of the effect of the program. The students' knowledge in the field was measured by a process evaluation concerned with the performance of actual services.[3] This allowed the student to apply the information received from the video tape directly to a hospital patient. The evaluation of performance consisted of information emphasized in the video tape presentation. The students were evaluated brushing a patient's teeth and brushing a full and partial denture. The results were graphed using a frequency polygon distribution curve (see figures 4 and 5).

RESULTS

The program was evaluated by measuring the extent to which the program objectives were met, the formulation and subsequent acceptance or rejection of the null hypotheses, and the computationa of program adequacy, effectiveness and efficiency.

The process examination scores revealed that the program objectives for this aspect of the program were met. Eighty-two percent of the students scored above 80% on the tooth-brushing process examination, while 100% of the students scored above 80% on the denture brusning process examination.

The nursing students' mean score on the knowledge test improved by 47%, thus meeting the pre-program objective.

Null and alternate hypotheses were formulated as follows:

Null hypothesis for P.H.P. results- There will be no statistically significant difference at the .05 level in the P.H.P. scores of students before or after the oral health presentation. The Sandler A test of significance was used to test this hypothesis. It was found that statistically the null hypotesis was rejected, thus indirectly proving the following alternative hypothesis: The P.H.P. scores of the students will be significantly lower at the .05 level after the oral health presentation. (For comparison of frequency polygon of before and after program P.H.P. scores, see table 1.)

Null hypothesis for knowledge test results-

There will be no statistically significant difference at the .05 level in the dental knowledge test scores of students before or after the oral health presentation. The Sandler's A test of significance was used to test this hypothesis. It was found that statistically the null hypothesis was rejected, thus indirectly proving the following alternative hypothesis: The dental knowledge scores of the students will be significantly higher at the .05 level after the oral health presentation.

(For comparison of before and after program knowledge scores see table 6.)

Null hypothesis for Likert attitude scale-

There will be no statistically significant difference at the .05 level in the Likert attitude scores of the students before or after the oral health presentation. The Wilcoxin signed-rank test of significance was used to test this hypothesis. It was found that statistically the null hypothesis was accepted (ie. there was no statistically significant difference in the Likert attitude scores of the students before or after the oral health presentation).

In evaluating the P.H.P. scores, the adequacy of the program was determined to be 48% while the effectiveness was 106%. The knowledge exam adequacy was 47% and the effectiveness was 392%. In comparing the budget proposed compared to the actual amount spent, the efficiency was calculated at 108%.

DISCUSSION

The process examinations were conducted one week following the video tape presentation. A pre-program process examination was not performed. The exam is subjective, and it would be difficult for the students to know what was being emphasized without prior instruction. A practical lab session could have been added to the sequence of the oral health presentation, between the video tape presentation and the process examination.

As it turned out, the process examination was, in part, a practice lab. The students gained information by watching each other being evaluated during the process examination. This variable could possibly have been eliminated by evaluating one individual at a time. This would require more time for the process evaluations. The authors were unable to determine a statistical difference since pre-program data was not obtained.

The P.H.P. scores were reduced from a mean score of 1.81 to .95. This may not be clinically significant but was proven to be statistically significant. The program resulted in a P.H.P. program adequacy of 48%. The effectiveness was 106%. This aspect was not an objective of the program but was considered to be a measureable side effect.

The knowledge scores were increased significantly from a mean of 45.71% to 67.32%. The scores were actually raised by 47% (adequacy). The effectiveness of the dental knowledge presentation was 392%. A need was evident, and it was met most effectively. The scores were raised to significant levels, but the authors felt the scores could have been raised even further. The presense of ambiguous questions and a different test style than what the students were accustomed to were possible barriers to the students achieving higher test results.

The examiners are not sure why there was no statistically significant difference in the attitudes scores. Perhaps there was no significant change since the attitude scores were rather high, even before the oral health presentation. The median score was 3.37 out of a possible 4.0 points.

All objectives of the program were met. The program in general made an impact on all persons involved: the consultants, the students, and the dental hygiene student coordinators. The video tape will become a part of the reference libraries in both the L.P.N. and Dental Hygiene Programs. The instructional program is to become a part of the L.P.N. curriculum and will be presented to each consecutive class of first semester L.P.N. students.

EVALUATION

Despite the long hours and headaches involved in the preparation and implementation of the community dental health program, we can honestly say that there were some high points to remember. The most obvious had to do with the knowledge and experience gained from the project. We learned a lot (the hard way) about how to deal with people and to avoid "stepping on toes". We also have learned to appreciate the work involved in any community health program and the frustrations which are bound to appear in such a project. The preparation of the video tape and long hours spent editing and editing and editing helped us see first hand the tremendous amount of work involved in media productions. Probably the most rewarding parts of the project were the new relationships and acquaintances made as a result of program planning and implementation. The L.P.N. students and the audio-visual personnel as well as several faculty members and administrators are all familiar faces now. Acknowledgements by all of these people make us feel like we are more a part of the campus than when we keep to ourselves in our little dental hygiene environment. We have also received some positive feedback on the video tape presentation from several of the L.P.N. students. That acceptance is probably the most significant to us.

The first disappointment we encountered tended to dampen our spirits on the whole program. We started off on the wrong track in failing to establish communication lines with the

right person. It was upsetting to realize that this person had the authority to make or break our program and that a phony relationship had to be established with her in order to carry out the program. We feel that this initial lack of communication may have affected our program. Not only did we hesitate to share everything with her, but we also believe that more support and enthusiasm could have come from from her and the rest of the nursing staff. Initially, a few of the students were totally disinterested in the program. Their lack of enthusiam was somewhat disappointing even though we expected some opposition. It was very disheartening to find out how much time and energy was envolved in preparing a video tape. We honestly expected to have it done in three weeks at the most.

We could have been better prepared by planning the video-taping in more precise detail and taping in sequence to avoid so much editing. Again, if we had planned ahead we would have had more time to obtain better visuals for the decay and periodontal section of the tape. The final testing period would have run more smoothly if we had held an in-service for the examiner assistants prior to the testing day. Also, a few of the students started the brushing process exam before taking the P.H.P. We should have anticipated and avoided this problem.

Some of the topics we feel should have been stressed more

include the following: the difference between large circular strokes with the toothbrush and the vibratory or small circular strokes ; in the tape, stress the reason for the use of the disclosing solution; in the process examinations we should stress a more realistic setting, ie. go to a convalescent home and help the nurses with real hospital patients.

The following is a list of those changes we would make if we were to repeat the project:

Review the objective exam more thoroughly for possible misinterpretations or poor questions due to the lettering and numbering used and the style of questions used.

Change all of those items listed under topics which would be further stressed.

Start earlier and be better prepared as discussed in the earlier section.

Establish earlier communication with all staff and consultants involved.

Have consultants review tape before final edit and packet before sending it to work processing.

In general, we were pleased with our evaluation. The significantly lower P.H.P. scores indicated that some change occured as a result of our program. Even though the knowledge scores were significantly higher, we were not pleased with the final score mean and distribution. The attitude scores were insignificant and if we were to repeat the program

we would either eliminate the attitude questions or research an develop a more complete and appropriate questionaire.

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2. Podshadley, A.G. and Haley, J.V. A method for evaluating oral hygiene performance. Pub. Health Rep. 83:259-264. March, 1968.

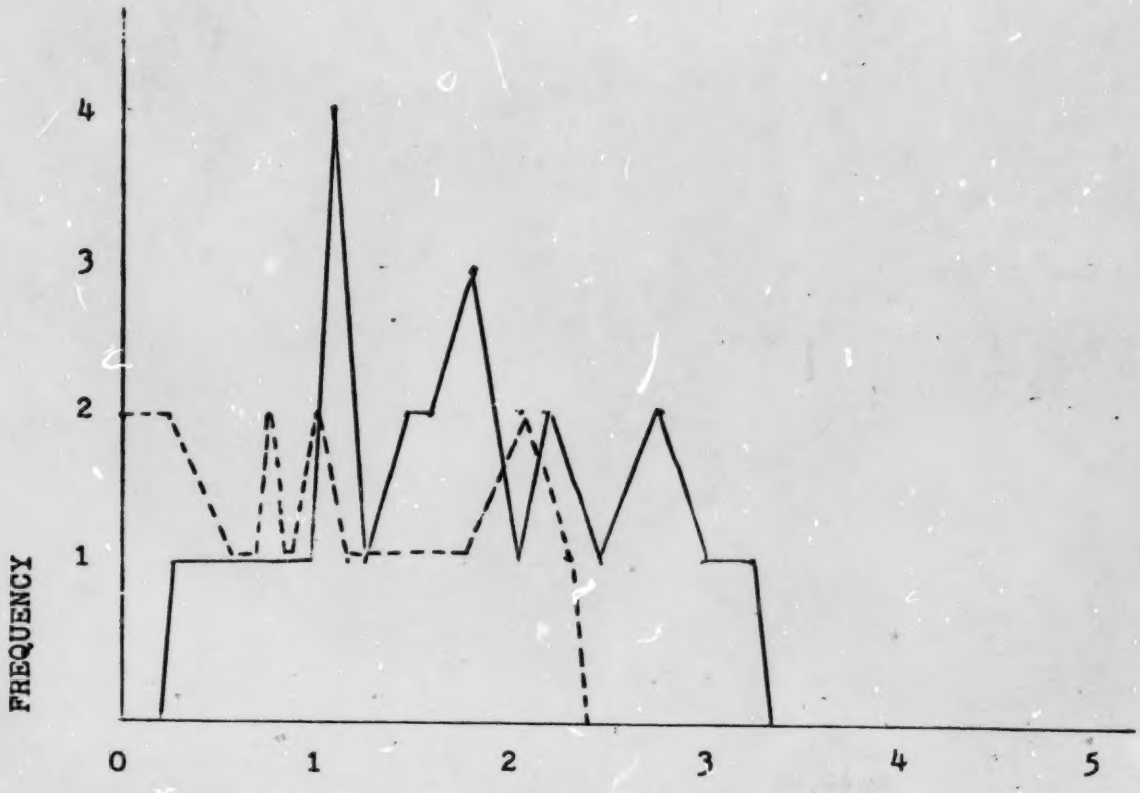
3. Mager, R.F. Preparing instructional objectives. Belmont, California, Fearon, 1962, viii - 60p.

4. Stoll, Frances A. Dental health education. 5th ed. Philadelphia, Lea & Febiger, 1977, xvi - 235p.

5. Runyon, R.P. and Haber, Audrey: Fundamentals of behavioral statistics. 3rd. ed. Addison-Wesley, Menlo Park, California. 1976 xvii - 446p.(p. 127-32).

TABLE 1

PHP SCORES



PHP SCORES

BEFORE VIDEO TAPE _____

AFTER VIDEO TAPE _ _ _ _ _ _

TABLE 2

LIKERT ATTITUDE SCALE

QUESTIONS 4,5

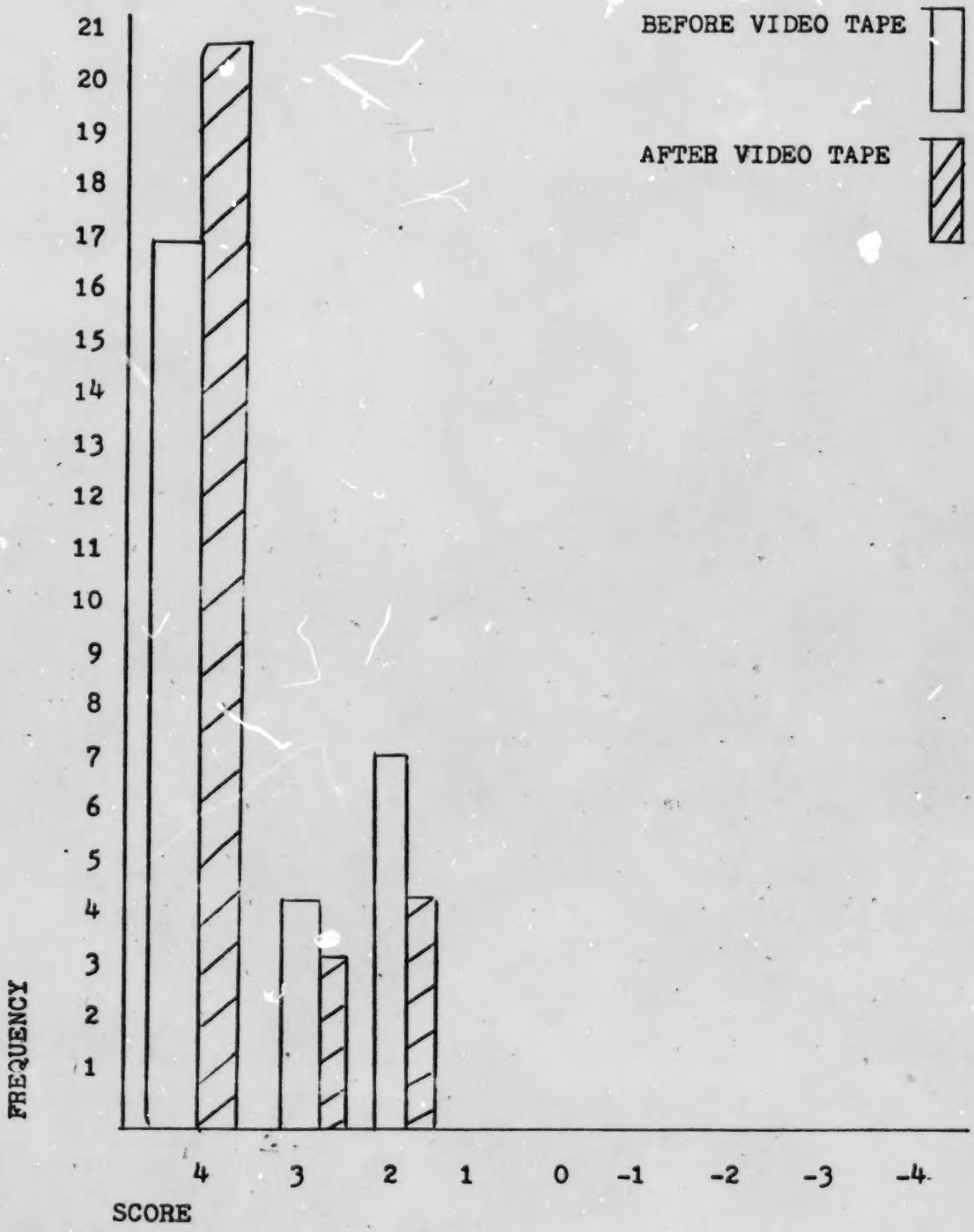
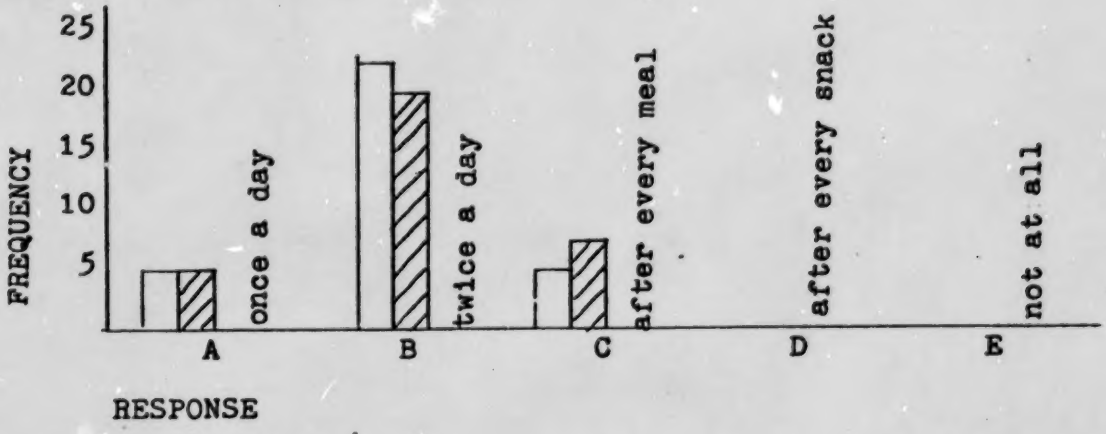


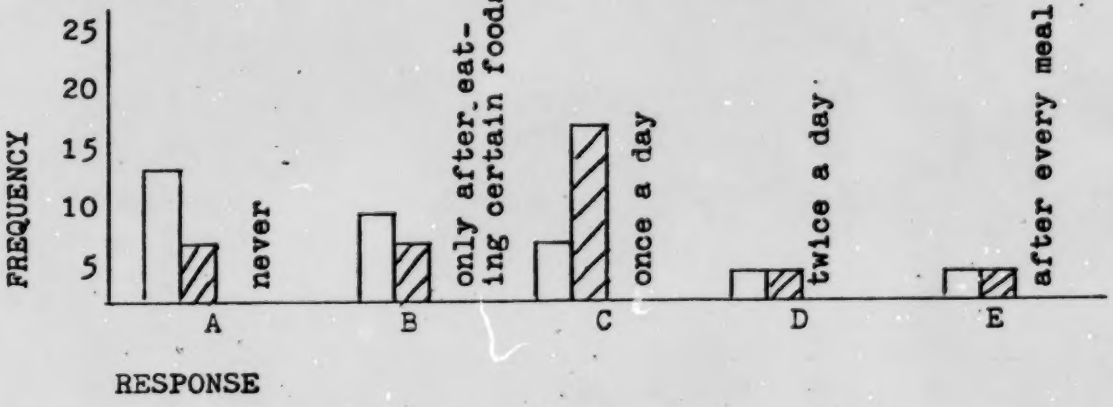
TABLE 3

PERSONAL ORAL HYGIENE HABITS

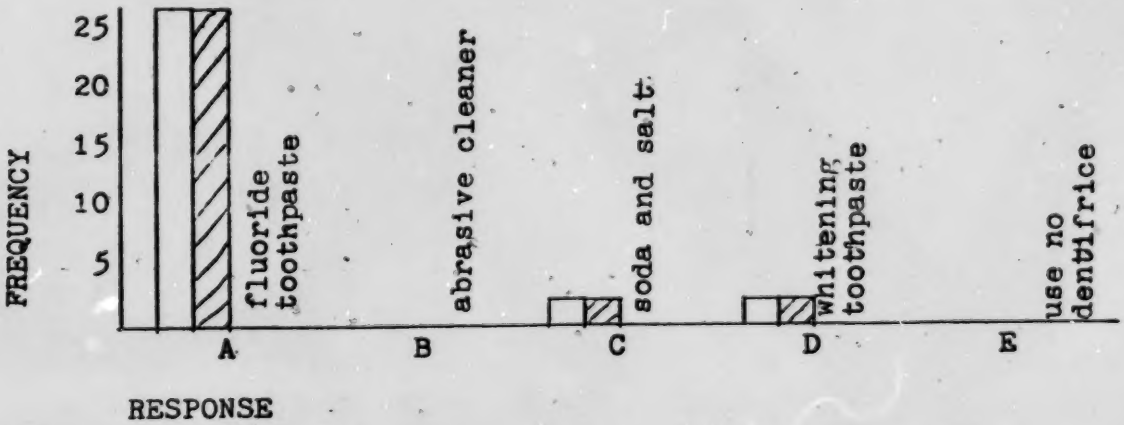
FREQUENCY OF TOOTHBRUSHING



FREQUENCY OF FLOSSING



TYPE OF DENTIFRICE



BEFORE VIDEO TAPE

AFTER VIDEO TAPE

TABLE 4

DENTURE BRUSHING PROCESS EXAMINATION

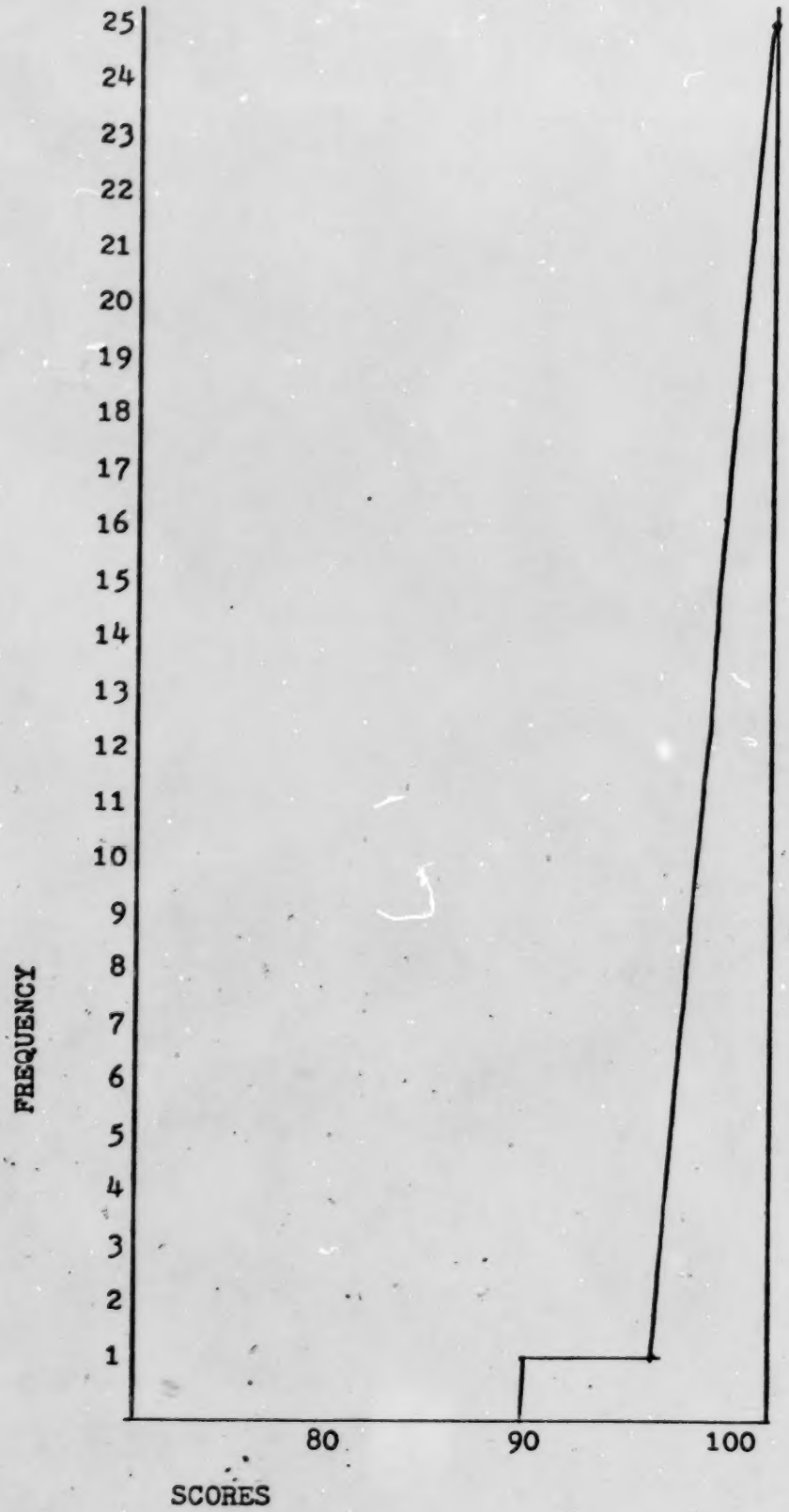


TABLE 5

TOOTHBRUSHING PROCESS EXAMINATION

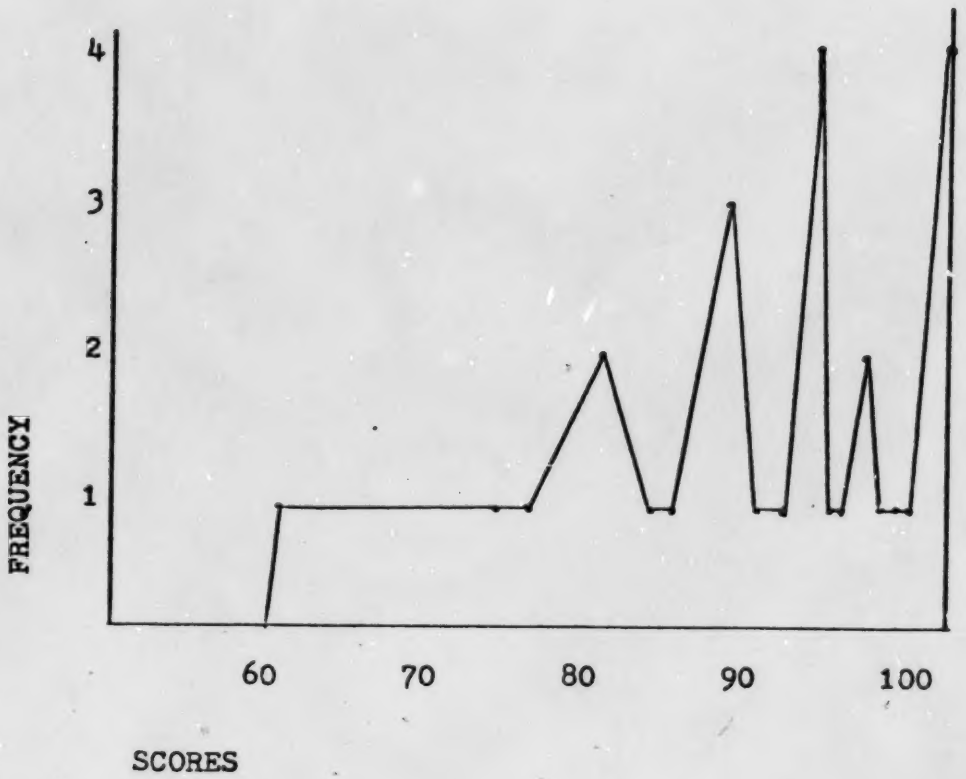
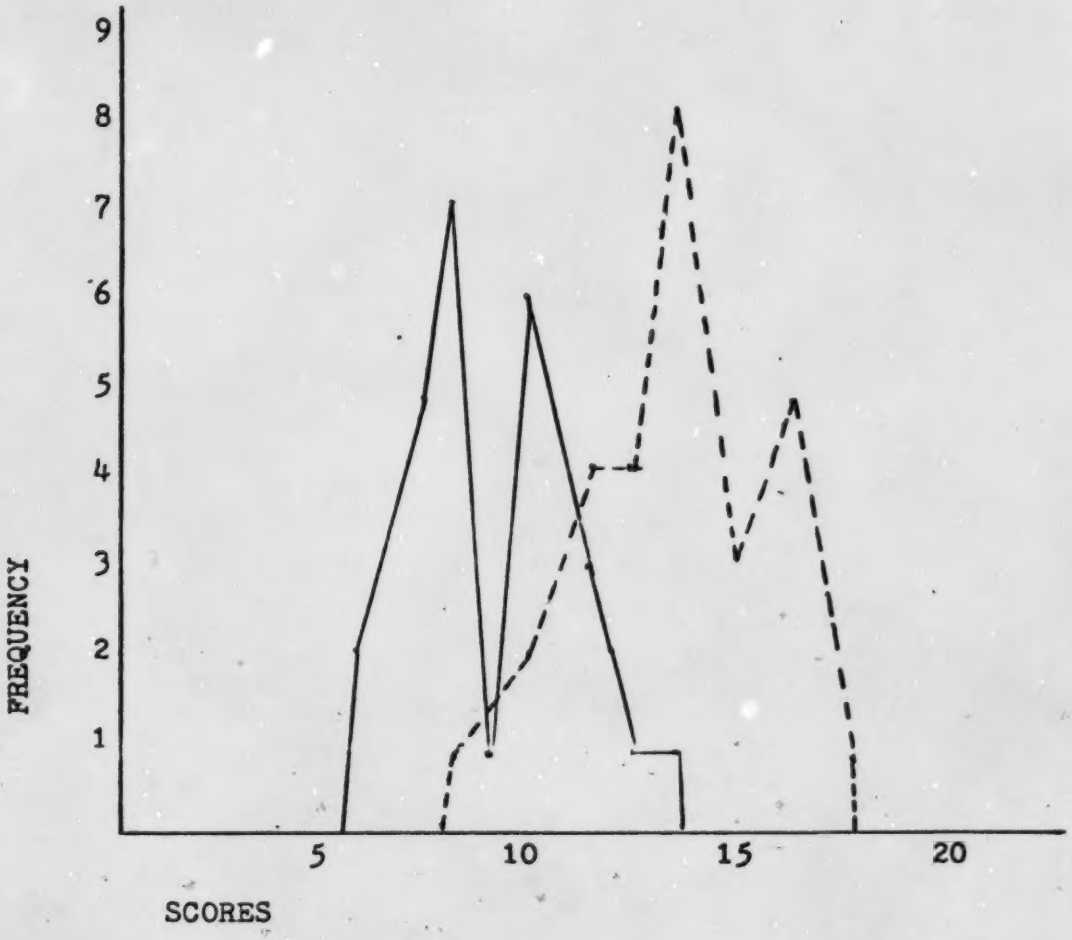


TABLE 6

KNOWLEDGE TEST SCORES FREQUENCY POLYGON



BEFORE VIDEO TAPE_____

AFTER VIDEO TAPE _ _ _ _ _ _

COMMUNITY HEALTH
QUESTIONAIRE

NAME_____

AGE_____

SOCIAL SECURITY NUMBER_____

Choose the best answer to the following questions and mark the appropriate box on the Scantron Sheet.

1. How many time a day do you brush your teeth?

   A. Once a day

   B. Twice a day

   C. After every meal

   D. After every snack

   E. Not at all

2. How often do you use dental floss?

   A. Never

   B. Only after eating certain foods

   C. Once a day

   D. Twice a day

   E. After every meal

3. What type of dentifrice do you use?

   A. Fluoride toothpaste

   B. An abrasive cleaner (Comet)

   C. Soda and salt

   D. Whitening toothpaste (Pearl Drops)

   E. Use no dentrifrice

4. It is extremely important for a nurse to practice good oral hygiene.

   A. Strongly agree

   B. Agree

   C. Undecided

   D. Disagree

   E. Strongly disagree

5. It is a nurse's responsibility to assit his/her patients in maintaing good oral health care during their hospital stay.

   A. Strongly agree

   B. Agree

   C. Undecided

   D. Disagree

   E. Strongly disagree

6. Which of the following statements are TRUE about plaque.

   1. Plaque contains mucin, carbohydrates and bacteria.

   2. Plaque adheres to all surfaces of teeth.

   3. Plaque will not accumulate on the tongue or oral mucous membrane.

   4. Plaque should be removed from teeth as soon as it is visable.

   5. Plaque can be removed only by a professional prophylaxis.

   A. 2 only

   B. 1 and 2

   C. 1, 3, and 4

   D. E only

   E. All of the above

7. Which of the following statements are TRUE about calculus.

   1. Calculus is often referred to as "tartar."

   2. Calculus accumulated on the teeth above the gums only and appears as a chaulky white hard deposit.

   3. Calculus is formed when minerals are allowed to deposit in plaque.

   4. Fortunately, calculus can be removed by thorough brushing.

   A. 1, 3

   B. 1, 2, and 3

   C. 3 only

   D. 1, 3, and 4

8. Which of the following equations best describes the complete decay process?

   A. Sugar + acidic foods + tooth = decay

   B. Plaque + sugar = acid = tooth = decay

   C. Plaque + acid = tooth = decay

   D. Sugar + plaque + acid = decay

9. Periodontal disease

   A. affects the teeth only.

   B. affects teeth, gums, periodontal membrane, and bone.

   C. affects gums, periodontal membrane, and bone.

   D. affects gums only.

10. Gingiva is another word for

   A. lips

   B. gum tissue

   C. inside lining of cheeks

   D. mucosa on the dorsum of the tongue

11. Dental floss is utilized in oral care to

   A. remove plaque from surfaces easily reached by brushing.

   B. remove food debris trapped along he gingival line.

   C. remove plaque from interproximal surfaces.

12. The type of dental floss proven superiorly effective in oral care is

    1. Waxed

    2. Unwaxed

    3. Lightly waxed

    4. Mint flavored

    5. Dental tape

    A. 1 and 3

    B. 1 only

    C. 2 only

    D. None of the above

13. The type of toothbrush recommended for use in oral care is

    A. Hard bristled nylon toothbrush with rounded filament ends

    B. Medium bristled nylon toothbrush with rounded filament ends

    C. Soft bristled nylon toothbrush with rounded filament ends

    D. None of the above

14. By toothbrushing, plaque is removed from all areas of the oral cavity EXCEPT:

    A. the gingival (gum) line

    B. beneath the gingival (gum) line

    C. occlusal (chewing) surfaces

    D. interproximal (adjacent) surfaces

15. Which of the following statement regarding flossing techniques is FALSE?

    A. There should be a space of five to six inches between the right and left hands. This allows for more control.

    B. Be careful not to snap the floss through the contact as this might result in tissue trauma.

    C. Wrap the floss in a "C" shape. This action is utilized to remove the optimal amount of plaque.

    D. It is important ot utilize flossing in a uniform order. This insures no surfaces are forgotten.

16. Which of the following procedures will adequately remove plaque?

1. Vigorous rinsing with a mouthwash.

2. Mechanical remocal with a toothbrush and dental floss.

3. Does not need to be removed.

4. Any irrigation device (Water-Pik.)

A. 1, 2 and 4

B. 2 only

C. 3 only

D. 1 and 4

17. Special adaptation of the brush is required for the lingual surfaces of the anterior area. This is best accomplished by

A. holding the brush in a horizontal direction.

B. holding the brush in a vertical direction.

C. holding the brush in an oblique direction.

D. special adaptation is not required.

18. Brushing the tongue is important to mouth care because:

1. it reduces the total number of microorganisms in the mouth.

2. it retards plaque formation on the tongue.

3. it cleanses and removes debris entrapped by the tongue's irregular surface anatomy.

4. it removes degenerated cells of the tongue.

A. 2 only

B. 1 and 4

C. 1, 2 and 3

D. None of the aove.

19. A proper toothbrushing method can be described by the following

A. a vibrating of the toothbrush with the bristles pointed toward the gum tissue.

B. Scrubbing vigorously back and forth with the bristles pointed toward the side of the tooth.

C. Down on the uppers and up on the lowers, followed by a thorough brushing of the biting surface.

D. Wide, circular motions followed by thoroguh brushing of the biting surface.

20. Which of the following statements regarding denture removal procedure is FALSE ?

A. Grasp denture firmly on the facial surface with the thumb. The index finger is placed on the lingual surface.

B. Retract the lip to expose the border of the denture, thus breaking the seal.

C. Remove the denture gently in a downward and forward motion or an upward and forward motion.

D. None of the above.

E. All of the above.

21. What precautions should be taken against possible denture breakage during brushing?

1. Grasp the denture in a tight grip

2. Hold denture over a water-filled basin

3. Place towels around and in the basin

4. Do not use soap as the denture may become slippery.

A. 1, 2, and 3

B. 2, 3, and 4

C. 2 and 3 only

D. 1,2,3, and 4

22. The difference between brushing techniques for full and partial dentures lies in the use of

A. temperatures of water

B. types of brushes

C. surfaces of dentures brushed

D. types of soaps (detergents)

23. If a denture is out of the patient's mouth, is should be stored:

A. by wrapping in wet paper towels.

B. in a container of hot water.

C. neatly placed on the nightstand next to the bed.

D. in a labeled container of room temperature water.

ORAL HEALTH CARE

FOR THE HOSPITAL PATIENT

Prepared by:

Libby Griego

And

Susan Briggs

Dental Hygiene Program

Clark County Community College

Funded by:

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ORAL HEALTH CARE
FOR THE HOSPITAL PATIENT

Course Objectives:

At the completion of the videotape presentation, each student will be able to:

1. discuss the importance of oral cleanliness as it relates to the general health of the hospital patient.
2. know the nurse's responsibility to those patients who generally neglect oral care as well as to those patients who generally maintain excellent oral hygiene.
3. know the definition of plaque and it's relationship to calculus, decay and periodontal disease.
4. know the symptoms of periodontal disease and make a general statement on its progression.
5. know the inter-relationship of plaque, calculus, sugar and carbohydrates, and acid and their relationship to decay and periodontal disease.
6. explain the purpose of dental floss and describe the general principles of the flossing procedure.
7. describe the type of brush recommended in this presentation and the rational behind its use.
8. describe the procedure for brushing a patient's teeth and perform toothbrushing on a student partner.
9. know the steps in flossing and brushing the hospital patient's teeth, including the patient who can help himself, the conscious patient who cannot clean his own teeth and the unconscious patient.
10. know the value and the limitations of glycerin and lemon swabs.

11. know the steps in removing a denture or partial.

12. be able to describe and demonstrate the principles of cleaning dentures and partials by immersion and brushing techniques.

13. know the procedures and rationale for cleaning and massaging the tissue underlying a denture or partial.

ORAL HEALTH CARE
FOR THE HOSPITAL PATIENT
(an outline of the video-tape presentation)

I. Introduction

The mouth is the chief portal of entry for disease organisms into the body. It is an ideal incubator for microorganisms, providing them with the required moisture, food, warmth and darkness necessary for their growth and multiplication.

Infections of the mouth are a source of danger to the digestive and respiratory systems; they may be carried to the tonsils, sinuses, and by the eustachian tube to the middle ear. Excess oral debris may be aspirated into the patient's respiratory passages to create a life threatening situation.

A neglected mouth may cause halitosis, tooth decay and periodontal disease. It may also spoil the appetite and become a source of discomfort to the patient.

Some patients arriving at the hospital almost never brush their teeth. There is an opportunity here for encouraging your patient to take more interest in the condition and care of his mouth. This means, of course, that the staff member must also be convinced that complete oral hygiene care is worth the effort.

On the other hand, there are patients who almost never miss cleaning their teeth or receiving regular dental care. They have a physical as well as a psychological need which must be serviced.

II. Plaque

A. the basic initiating factor of all dental disease
B. an accumulation of mucin, carbohydrates and bacteria
C. coats the teeth and soft tissues
D. must be stained with disclosing solution to be seen

III. Calculus

A. formed when minerals from the saliva become deposited in the plaque.
B. forms above and below the gum line
C. cannot be removed with a toothbrush or floss - requires a professional prophylaxis
D. surface is very irregular and facilitates the further retention of plaque

IV. Decay Process

Bacteria which is found in PLAQUE utilizes carbohydrates and SUGAR to produce an ACID byproduct. The ACID demineralizes the TOOTH structure resulting in tooth DECAY.

PLAQUE + SUGAR = ACID + TOOTH - DECAY

. Decay Progression -

1. through hard structures of enamel
2. to the pulp (blood vessels, lymph vessels and nerve endings.)
3. can result in an abcess at the tip of the root

V. Periodontal Disease (Pyorrhea)

A. affects gingiva, supporting bone and periodontal ligaments
B. acid byproducts of bacteria irritate tissue
C. inflammatory response
D. leads to loss of gingival attachment, supporting bone and eventually loss of teeth.
E. SYMPTOMS: bleeding gums, swollen tissue, receeding gum line, formation of pockets between the teeth and gums, loose teeth.

PLAQUE → CALCULUS → DECAY → PERODONTAL DISEASE

PLAQUE + SUGAR = ACID

VI. Flossing

A. removes plaque from proximal surfaces of teeth
B. should be accomplished at least once every 24 hours
C. floss before brushing; the fluoride in toothpaste will only be absorved by a clean tooth surface.
D. types of floss: waxed, unwaxed, lightly waxed, mint flavor, dental tape; no one type is superior to the others
E. procedure for flossing:
   1. wash hands
   2. have patient rinse mouth
   3. remove an 18 inch piece of floss from the container
   4. if you wish, tie the floss in a circle
   5. pinch floss with thumb and index fingers of each hand
   6. leave space of one to two inches between hands
   7. place floss in between teeth with gentle back and forth motion.
   8. be careful not to snap floss through contact
   9. wrap floss in "C" shape
   10. gently slide foss under gum line
   11. with wiping. pressing motion slide the floss along the surface of the tooth going from gum line to contact of tooth.
   12. repeat three to four times for each proximal surface
   13. floss adjacent surface of next tooth
   14. avoid cutting the interdental tissue
   15. use uniform order to avoid missing any surfaces

VII. Brushing

A. Type of brush
1. soft nylon
2. rounded filament ends
3. if a hard brush is all that is available, first soak it in hot water

B. Procedure
1. bristles directed at a 45 angle toward gingiva
2. allow some bristles to go under the gingival line
3. activate brush with small circular strokes
4. apply brush to next group of two or three teeth
5. overlap brush placement
6. brush all facial (toward the cheek and lips) and lingual (toward the tongue) surfaces
7. special adaption for lingual surfaces of anterior teeth
   a. hold brush in vertical direction
   b. apply bristles beneath the gingival tissue and utilize same circular stroke
   c. provides better access but will cover only one or two teeth in each position
8. brush occlusal surface with a back and forth scrubbing stroke
9. brush tongue
   a. microorganisms flourish on it's irregular surface
   b. reduces total number of microorganisms in mouth and retards plaque formation.

VIII. Special Considerations

A. Assisting a patient who is able to clean his/her own teeth
1. wash hands
2. help patient assume a comfortable position
3. protect bedding and gown with a towel
4. provide patient with water, a straw (if needed) and an emesis basin for rinsing
5. assist patient in obtaining supplies: floss, brush, toothpaste, paper tissue, mouthwash (if patient prefers)
6. allow patient to brush his/her own teeth
7. assist patient in cleaning up after procedure
8. wash hands

B. Cleansing the conscious patient's teeth
1. wash hands
2. tell patient what you plan to do and why
3. position patient in a comfortable position (Fowler, semi-Fowler or side lying)
4. protect bedding and gown with a towel
5. place emesis basin under patient's chin
6. have patient vigorously rinse his/her mouth and rinse into emesis basin to remove excess debris
7. floss patient's teeth in the manner previously described

IX. Dentures and Partials

A. Removal of Appliances
   1. if patient is alert and reacting provide for patient privacy and request that the patient remove his/her denture and/or partial; receive appliance in a container marked with the patient's name
   2. if you need to remove the appliance for the patient:
      a. grasp denture firmly on the facial surface with the thumb, gently retractin the lips
      b. index finger will be placed on te palate (for the upper denture) and the lingual surface (for the lower denture)
      c. with other hand, retract the lip, exposing the border of the denture to break the seal
      d. remove the denture gently in a downward and forward motion (upper denture) or an upward and forward motion (lower denture)
      e. if patient has a partial denture with clasps, exert an even pressure on both sides of the partial simultaneously; remove with an even, vertical movement

B. Cleansing Appliances
   1. brushing full dentures
      a. grasp denture securely but gently in palm of hand
      b. hold over cloth lined basin, partially filled with water (protects denture, if dropped)
      c. apply warm water, non-abrasive soap and brush all areas of denture
      d. rinse thoroughly
      e. return to patient's mouth
      f. if denture is not to be returned immediately to patient's mouth, store in container; fill container with water; mouthwash may be added to the water
      g. improper brushing may alter the fit of the denture or scratch the surfaces
      h. danger of dropping the denture is increased when it is wet and/or soapy
      i. rinse brush and place in a non-contaminated storage area to dry
      j. apecial care is required if the patient's denture has been relined with a soft temporary reline material; brush very gently; adhesive, on the other hand, should be removed, denture cleaned and replaced with new adhesive material
   2. brushing partials
      a. use special clasp brush for metal clasps
      b. grasp, cleaning and storage are the same as outlined for dentures
      c. clean remaining natural teeth in the previously described method of toothbrushing and flossing

8. place dentifrice on patient's toothbrush if patient generally uses one
9. brush teeth in the manner previously described including the tongue
10. allow patient to rinse and expectorate into the basin
11. the use of a straw often makes the rinsing procedure easier for the patient
12. wipe patient's mouth with a tissue
13. rinse out toothbrush
14. clean area
15. wash hands

C. Cleansing the mouth of a patient who is very ill or febrile

- should have mouth cleaned every four hours, especially before and after nourishment is taken
- these patients often breathe through their mouths and are unable to take fluids by mouth: mouth can become very dry; mucous secretion forms dark brown crusts (sordes) which collect on teeth, tongue and lips; entire mouth must be cleansed of these particles and kept lubricated to help prevent further accumulation

1. wash hands
2. place patient in most comfortable position
3. place towel and emesis basin under shin
4. if mouth is parched and dry or if there are sordes present, apply a lubricant 15 minutes before cleansing
5. provide for protection of your fingers - a finger guard if available or a padding of cotton sponges
6. use a bite block on one side to hold mouth open - a commercial biteblock, if available, or make your own by wrapping tape around tongue blades and cotton sponges.
7. use a soft toothbrush; dip in water, fluoride mouthrinse or antiseptic mouthrinse (do not use a dentifrice on a patient who is unable to rinse)
8. brush teeth, gingiva, inside of cheeks and tongue gently
9. clean one side of the mouth, upper and lower before you change the biteblock to the other side of the mouth
10. an aspirator tip or bulb syringe should be available during the entire procedure to remove excess fluids and saliva and prevent aspiration into the respiratory passages
11. if a toothbrush is impossible to use, the patient's mouth should be wiped thoroughly with cotton swabs or cotton sponges; they can be dipped in an anticeptic mouthwash before use; discard all swabs or sponges in a separate bag after use.
12. mechanical action is what cleans mouth and teeth rather than the type of mouthrinse or chemical agent used; glycerin and lemon swabs are useful to lubricate the mouth but they do not do an adequate job of removing plaque
13. after cleansing, moisten mouth with damp swabs or glycerin and lemon swabs and apply a lubricant to the lips
14. rinse toothbrush; discard all disposables; clean area
15. wash hands

3. cleaning denture and partials by immersion
   - advantages
   - solution reaches all areas of the denture
   - prevents the need for handling required during brushing
   - safe storage when dentures are removed from the mouth
   - no abrasion to denture material
   - used when cleaning is distasteful
   - aid to those who cannot brush

   a. rinse the denture to remove saliva and debris
   b. place in plastic container equipped with cover and marked with patient's name
   c. use only warm water; hot water can distort the denture
   d. disolve tablet in water
   e. immerse all areas of denture with solution and cover the container
   f. leave in solution for the amount of time recommended by the manufacturer
   g. rinse denture in warm running water
   h. denture should be brushed gently to remove loose debris and chemicals
   i. immersion solutions are only effective against loose debris; thorough denture cleanliness is dependent upon daily immersion and brushing

4. Cleansing and massaging the underlying tissue

   - Rationale: to stimulate circulation and increase resistance to trauma

   a. rinse edentulous mouth with warm water to remove debris
   b. brush tissue with a soft bristled toothbrush at least once a day; use gentle strokes
   c. massage tissue with fingers by placing the thumb and index finger over the ridge and applying a press and release stroke; palate may be rubbed with the ball of the thumb

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PROCESS EVALUATION FORM

"Oral Health Care of the Hospital Patient"

NAME_____

BRUSHING THE PATIENT'S TEETH

A	I	U	NE	PROCEDURES
				1. Wash hands.
				2. Position patient in most comfortable position (Fowler, semi-Fowler, or lying on their side).
				3. Place a towel under patient's chin to protect clothing and bedding.
				4. Place toothpaste on the toothbrush (optional).
				5. Place bristles at a 45 angle toward gingiva.
				6. Allow bristles to go under the gum line to remove plaque in this area.
				7. Activate the brush using small circular strokes.
				8. Overlap placement with the adjacent position.
				9. Adapt the brush to the anterior region: hold brush in a vertical direction, utilizing a small circular stroke.
				10. Brush the occlusal (biting) surface with a back and forth scrubbing motion.
				11. Brush the tongue with gentle strokes.
				12. Assist patient in rinsing mouth.
				13. Apply lubricant to lips to prevent drying.

COMMENTS

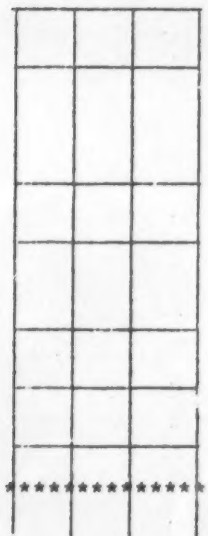
PROCESS EVALUATION FORM

"Oral Health Care of the Hospital Patient"

NAME_____

BRUSHING DENTURES AND PARTIALS

A I U NE PROCEDURES



1. Place towel in and around basin.
2. Partially fill the basin with water.
3. Grasp the denture securely but gently in the palm of the hand. Excessive pressure or squeezing may cause breakage.
4. Apply warm water and non abrasive soap.
5. Adapt the brush to all areas of the denture (teeth, plastic resin, impression surface.)
6. Rinse well under warm running water.
7. Return to marked container.

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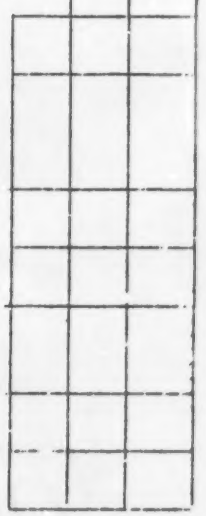

1. Place towel in and around basin.
2. Partially fill the basin with water,
3. Grasp the denture securely but gently in the palm of the hand. Excessive pressure or squeezing may cause breakage.
4. Adapt the clasp brush to inner surfaces of the clasps.
5. Apply warm water and non abrasiave soap.
6. Adapt the denture brush to all other areas of the partial (teeth, plastic resin, impression surface.)
7. Rinse well under warm running water.
8. Return to marked container.

COMMENTS